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## Navy Researchers Demonstrate Bioinformatics Capability in Thailand

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(NO COMMENTS)

**By Lt. Cmdr. Vishwesh Mokashi, head, Biological Defense Research Directorate Genomics Department, Naval Medical Research Center**



Earlier this month, our team of researchers from the Naval Medical Research Center (NMRC) in Silver Spring, Md. along with collaborative researchers successfully demonstrated a novel bioinformatic capability to the [Armed Forces Research Institute in Medical Sciences \(AFRIMS\)](#) in Bangkok, Thailand.

The goal was to provide laboratories outside the United States, like AFRIMS in Bangkok, with tools to analyze complicated biological data sets. An added benefit is that this capability may translate to lower costs.

The Edge Bioinformatic software package relies entirely on open-source software tools that bioinformatics professionals typically use, but the implementation is unique because we have put them together into pipelines that are very user-friendly for scientists who don't typically have a lot of bioinformatic and computer science expertise. The graphical user interface and use case-driven workflows greatly simplify the task of initiating a genome-scale analysis.

One great thing about Edge is that it is designed to run with a small footprint in a lab with limited resources. As compared to a typical computer cluster that a bioinformatics team might utilize, the machine running Edge is relatively inexpensive, small, and portable. Essentially, wherever you go, you can take a bioinformatics capability with you. It's a genomics force multiplier.

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In the course of one week the Edge team installed a pre-assembled server at the AFRIMS facility in Bangkok, updated software and patches, ran AFRIMS data sets, and demonstrated the capability to different groups within AFRIMS and also the [Department of State](#) officials stationed in Thailand. The Edge team successfully ran viral sequence data to generate results in as little as 30 minutes.

The Edge program is being designed to enable trained bioinformaticians in the U.S. to support scientists outside of the continental U.S. by logging in remotely to help trouble shoot and interpret results of automated analyses that the labs within the U.S. will perform. This system will allow for enhanced customized data analyses, which overseas laboratory personnel may not currently be set up to do.

After this successful demonstration, the Edge team will continue development of the software package, focusing on various aspects such as additional analysis workflows for complex samples such as clinical specimens and improvement of the user interface. They will continue to work with potential users to ensure that pipelines developed are in line with users' needs.

For more information about the Naval Medical Research Center, click [here](#).

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